

REMARKS

1. Claims 1-15 are pending and stand rejected.

Reconsideration of this application is respectfully requested.

2. Claim 1 has been amended to correct a minor grammatical error. Claim 11 has been amended to eliminate the "PEB" limitation.

3. Claims 1-5 and 11-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,380,518 to Shirakawa et al. (Shirakawa).

Re: claims 1-5:

Independent claim 1 currently recites:

Apparatus for adjusting exhaust flow in a hot plate apparatus, comprising:
a programmable exhaust control regulator generating a first input signal to a motor control circuit;
an exhaust flow meter generating a second input signal to the motor control circuit; and
a motor driven control valve moveable to different positions according to the first and second input signals, the control valve being installed in an exhaust portion of the hot plate apparatus.

Shirakawa does not arrive at the invention of claim 1 because Shirakawa does not teach or suggest the claimed programmable exhaust control regulator, motor control circuit, exhaust flow meter, and motor driven control valve.

Regarding the programmable exhaust control regulator, the examiner contends that this element is taught in Shirakawa in column 9, lines 9-15. Shirakawa, however,

merely teaches that the gas supply system and the exhaust system may be controlled on the basis of the detected temperature of the hot plate. There is no teaching or suggestion in Shirakawa of a programmable exhaust control regulator.

Regarding the other claimed elements, Shirakawa does not teach or suggest a motor control circuit which receives input signals from a programmable exhaust control regulator and an exhaust flow meter, as called for in claim 1. Shirakawa also does not teach or suggest a motor driven control valve which is moveable to different positions according to input signals from a programmable exhaust control regulator and an exhaust flow meter, as called for in claim 1. Shirakawa does not teach or suggest an exhaust flow meter generating a second input signal to a motor control circuit, as called for in claim 1.

The examiner acknowledges these omissions in Shirakawa, but alleges that these elements are conventional and well known in the art. Thus, the examiner has essentially taken official notice (without documentary evidence) that the differences between Shirakawa and the claimed invention would have been obvious to one of ordinary skill in the art at the time of invention. (See MPEP 2144.03)

It is respectfully submitted that official notice unsupported by documentary evidence should only be taken where the limitations asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. See *In Re Ahert*, 424 F.2d 1088, 1091, 165 USPQ 418, (CCPA 1970). There must be some concrete evidence in the record to support an assertion of common knowledge. See *Lee*, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002) and *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697. There is nothing in the record

of the present application to support the assertion that the claimed motor control circuit, exhaust flow meter, and motor driven control valve are common knowledge in the art.

Accordingly, claim 1 is allowable over Shirakawa.

With respect to claims 2-5, which depend upon claim 1 and recite additional features of the invention, applicant believes these claims to be allowable for at least the same reasons as stated for claim 1.

Re claims 11-15:

Independent claim 11 currently recites:

A method of cleaning a chamber of a hot plate apparatus,
comprising the steps of:
 controlling the exhaust flow of the apparatus to the
 exhaust flow value while the photo resist material is
 heated in the apparatus to a solidified photo resist layer;
 and
 increasing the exhaust flow to clean the chamber.

Shirakawa does not arrive at the invention of claim 11 because Shirakawa does not teach or suggest controlling the exhaust flow of the apparatus to the exhaust flow value while the photo resist material is heated in the apparatus to a solidified photo resist layer and increasing the exhaust flow to clean the chamber. Shirakawa merely teaches switching the flow route of exhaust air from first exhaust pipe 66a to second exhaust pipe 66b to create "virtually parallel streams flowing in the X-axis direction" in upper space 59, so that heat can be given from hot plate 58 to the wafer W uniformly. (See column 10, line 60 through column 11 line 6 of Shirakawa). Accordingly, claim 11 is allowable over Shirakawa.

With respect to claims 12-5, which depend upon claim 11 and recite additional features of the invention, applicant believes these claims to be allowable for at least the same reasons as stated for claim 11.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

4. Claims 6 and 7 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,554,507 to Namatsu.

Claim 6 has been amended to correct a minor grammatical error and to clarify that the manufacturing recipe of the photo resist material includes an exhaust flow value of a PEB apparatus. Specifically, independent claim 6 currently recites:

A method of controlling a thickness and a surface profile of a photo resist layer, comprising the steps of;
 providing a manufacturing recipe of a photo resist material, the recipe including an exhaust flow value of a PEB apparatus, and
 controlling the exhaust flow of the PEB apparatus to the exhaust flow value while the photo resist material is heated in the PEB apparatus to a solidified photo resist layer of controlled thickness and surface profile.

Namatsu does not expressly or inherently describe the subject matter of currently amended claim 6. Specifically, Namatsu does not expressly or inherently describe “providing a manufacturing recipe of a photo resist material, the recipe including an exhaust flow value of a PEB apparatus,” as called for in claim 6. Namatsu merely describes in column 9, lines 42-45:

This evacuation rate need only have a value with which the flow rate of the exhaust fluid, observable by the flow meter 308, is about 0.5 to 2 liters per min.

Therefore, claim 6 is allowable over Namatsu.

With respect to claim 7 which depends upon claim 6 and recites additional features of the invention, applicants believe that this claim is allowable over Namatsu for at least the same reasons as stated for claim 6.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

5. Claims 8-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Namatsu.

Claims 8-10 depend from claim 6, and thus contain all the features of claim 6 including “providing a manufacturing recipe of a photo resist material, the recipe including an exhaust flow value of a PEB apparatus.” As noted above with respect to the allowability of claim 6, Namatsu fails to describe this feature. For at least this reason, Namatsu fails to arrive at the invention of claims 8-10.

In addition, the examiner acknowledges that Namatsu does not teach or suggest the claimed steps of “varying the exhaust flow with a control valve” (claims 8-10); “varying the control valve with a motor” (claims 8-10); and “driving the motor with a motor drive circuit” (claims 9 and 10). The examiner, however, alleges that these elements are conventional and well known in the art. Thus, the examiner takes official notice, without documentary evidence, that the differences between Namatsu and the claimed invention would have been obvious to one of ordinary skill in the art at the time of invention. It is respectfully submitted that these features are not capable of instant

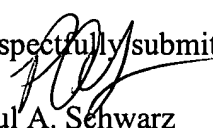
and unquestionable demonstration as being well-known, therefore, official notice of same is improper. Therefore, claims 8-10 are allowable over Namatsu.

In view of the foregoing, claims 8-10 are allowable over Namatsu. Accordingly, withdrawal of this rejection is respectfully requested.

6. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 1-15 are in condition for allowance. Should there be any questions or matters whose resolution may be advanced by a telephone call, the examiner is cordially invited to contact applicants' undersigned attorney at his number listed below.

7. The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this communication, or credit any overpayment to Deposit Account No. 50-2061.

Respectfully submitted,


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